SVENSK STANDARD SS-EN 62779-2

Fastställd	Utgåva	Sida	Ansvarig kommitté
2016-08-24	1	1 (1+18)	SEK Elektro-tekniska rådet

Halvledarkomponenter – Halvledargränssnitt för kommunikation genom människokroppen (HBC) – Del 2: Bestämning av gränssnittets egenskaper

Semiconductor devices –
Semiconductor interface for human body communication –
Part 2: Characterization of interfacing performances

Som svensk standard gäller europastandarden EN 62779-2:2016. Den svenska standarden innehåller den officiella engelska språkversionen av EN 62779-2:2016.

Nationellt förord

Europastandarden EN 62779-2:2016

består av:

– **europastandardens ikraftsättningsdokument,** utarbetat inom CENELEC
– **IEC 62779-2, First edition, 2016 - Semiconductor devices - Semiconductor interface for human body communication - Part 2: Characterization of interfacing performances**

utarbetad inom International Electrotechnical Commission, IEC.

ICS 31.080.01

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EUROPEAN STANDARD

NORME EUROPÉENNE

EUROPÄISCHE NORM

EN 62779-2

May 2016

ICS 31.080.01

English Version

Semiconductor devices - Semiconductor interface for human body communication - Part 2: Characterization of interfacing performances (IEC 62779-2:2016)

Dispositifs à semiconducteurs - Interface à semiconducteurs pour les communications via le corps humain - Partie 2: Caractérisation des performances d'interfaçage (IEC 62779-2:2016)

Halbleiterbauelemente - Halbleiterschnittstelle zur Kommunikation über den menschlichen Körper - Teil 2: Beschreibung der Schnittstellenfunktion (IEC 62779-2:2016)

This European Standard was approved by CENELEC on 2016-03-24. CENELEC members are bound to comply with the CEN/CENELEC Internal Regulations which stipulate the conditions for giving this European Standard the status of a national standard without any alteration.

Up-to-date lists and bibliographical references concerning such national standards may be obtained on application to the CEN-CENELEC Management Centre or to any CENELEC member.

This European Standard exists in three official versions (English, French, German). A version in any other language made by translation under the responsibility of a CENELEC member into its own language and notified to the CEN-CENELEC Management Centre has the same status as the official versions.

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European Committee for Electrotechnical Standardization
Comité Européen de Normalisation Electrotechnique
Europäisches Komitee für Elektrotechnische Normung

CEN-CENELEC Management Centre: Avenue Marnix 17, B-1000 Brussels

Ref. No. EN 62779-2:2016 E

SEK Svensk Elstandard

European foreword

The text of document 47/2268/FDIS, future edition 1 of IEC 62779-2, prepared by IEC/TC 47 "Semiconductor devices" was submitted to the IEC-CENELEC parallel vote and approved by CENELEC as EN 62779-2:2016.

The following dates are fixed:

- latest date by which the document has to be implemented at national level by publication of an identical national standard or by endorsement (dop) 2016-12-24
- latest date by which the national standards conflicting with the document have to be withdrawn (dow) 2019-03-24

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Endorsement notice

The text of the International Standard IEC 62779-2:2016 was approved by CENELEC as a European Standard without any modification.

In the official version, for Bibliography, the following note has to be added for the standard indicated :

IEC 62779	NOTE	Harmonized in EN 62779 series.

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INTERNATIONAL ELECTROTECHNICAL COMMISSION

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SEMICONDUCTOR DEVICES – SEMICONDUCTOR INTERFACE FOR HUMAN BODY COMMUNICATION –

Part 2: Characterization of interfacing performances

FOREWORD

1) The International Electrotechnical Commission (IEC) is a worldwide organization for standardization comprising all national electrotechnical committees (IEC National Committees). The object of IEC is to promote international co-operation on all questions concerning standardization in the electrical and electronic fields. To this end and in addition to other activities, IEC publishes International Standards, Technical Specifications, Technical Reports, Publicly Available Specifications (PAS) and Guides (hereafter referred to as "IEC Publication(s)"). Their preparation is entrusted to technical committees; any IEC National Committee interested in the subject dealt with may participate in this preparatory work. International, governmental and non-governmental organizations liaising with the IEC also participate in this preparation. IEC collaborates closely with the International Organization for Standardization (ISO) in accordance with conditions determined by agreement between the two organizations.
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International Standard IEC 62779-2 has been prepared by IEC technical committee 47: Semiconductor devices.

The text of this standard is based on the following documents:

FDIS	Report on voting
47/2268/FDIS	47/2278/RVD

Full information on the voting for the approval of this standard can be found in the report on voting indicated in the above table.

This publication has been drafted in accordance with the ISO/IEC Directives, Part 2.

A list of all parts in the IEC 62779 series, published under the general title *Semiconductor devices – Semiconductor interface for human body communication*, can be found on the IEC website.

The committee has decided that the contents of this publication will remain unchanged until the stability date indicated on the IEC web site under "http://webstore.iec.ch" in the data related to the specific publication. At this date, the publication will be

- reconfirmed,
- withdrawn,
- replaced by a revised edition, or
- amended.

INTRODUCTION

The IEC 62779 series is composed of three parts as follow:

- IEC 62779-1 defines general requirements of a semiconductor interface for human body communication. It includes general and functional specifications of the interface.
- IEC 62779-2 defines a measurement method on electrical performances of an electrode that constructs a semiconductor interface for human body communication.
- IEC 62779-3 defines functional type of a semiconductor interface for human body communication, and operational conditions of the interface.

SEMICONDUCTOR DEVICES – SEMICONDUCTOR INTERFACE FOR HUMAN BODY COMMUNICATION –

Part 2: Characterization of interfacing performances

1 Scope

This part of IEC 62779 defines a measurement method on electrical performances of an electrode that composes a semiconductor interface for human body communication (HBC). In the measurement method, a signal transmitter is electrically isolated from a signal receiver, so an isolation condition between the transmitter and receiver is maintained to accurately measure the electrode's performances. This part includes general and functional specifications of the measurement method.

HBC uses the body of a user as a transmission medium using near-field coupling inside the body: a signal transmitter and receiver are coupled with each other through a near field that is formed inside the human body and air. The intensity of the near field is strong especially inside the body due to high dielectric constant of the body, so a data signal is transmitted through the human body by modulating the near field. A signal transmitter and receiver for HBC include an internal ground respectively, and, in most HBC applications, the grounds are separated from each other as maintaining the coupling condition through the air. Quality of a data transmission strongly depends on a coupling degree between the grounds; hence, it is important to maintain the coupling degree between grounds of a signal transmitter and receiver for an accurate measurement of the electrode's performances. This part defines a measurement method to measure electrical performances of an electrode while the coupling degree between grounds of a signal transmitter and receiver is maintained.

NOTE 1 HBC semiconductor interface consists of an electrode and analog front end.

NOTE 2 General analog and digital modulation techniques can be used to modulate a near field used in HBC, and a modulation technique to be used is determined according to required performances for a data transmission and a HBC application.

2 Normative references

The following referenced documents are indispensable for the application of this document. For dated references, only the edition cited applies. For undated references, the latest edition of the referenced document (including any amendments) applies.

None.